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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,388	09/30/2003	Xuyen Pham	LAM2P441	9149
25920	7590	07/27/2004	EXAMINER	
MARTINE & PENILLA, LLP 710 LAKEWAY DRIVE SUITE 170 SUNNYVALE, CA 94085			THOMAS, DAVID B	
			ART UNIT	PAPER NUMBER
			3723	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/676,388

Applicant(s)

PHAM ET AL.

Examiner

David B. Thomas

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 14, 15, 19, 20, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Tolles (6,702,651).

Tolles ('651) discloses an apparatus which reads over the method of rinsing a CMP polishing pad, as the apparatus of Tolles ('651) includes all of the structural elements required by the method and is therefore capable of performing the method. Therefore, the apparatus of Tolles ('651) is capable of: supplying a rinsing solution to a nozzle; supplying a pressurized carrier gas to the nozzle; directing a resulting spray from the nozzle toward the CMP polishing pad, the spray having a force sufficient to substantially dislodge a CMP byproduct contaminant from the CMP polishing pad, which is also, inherently, sufficient to break an electrostatic bond between the CMP polishing pad and the byproduct contaminant. Tolles ('651) discloses the system as claimed in claims 19, 20, and 22 (see Col. 8, lines 23-44).

3. Claims 1-11, 14-16, and 19-23 are rejected under 35 U.S.C. 102(b) as

Art Unit: 3723

anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kimura et al. (2002/0023715 A1).

Kimura et al. disclose a system and apparatus which reads over the methods of delivering a liquid to a CMP polishing pad and the method of rinsing a CMP polishing pad, as the system and apparatus of Kimura et al. include all of the structural elements required by the method and is therefore capable of performing the method. Regarding the mixed gas and liquid, Kimura et al. disclose that by altering parameters such as pressure and temperature of the liquid and/or gas and nozzle configuration by means of the injecting nozzle, the liquid to be supplied is changed by the nozzle injection to 1 fine liquid droplets, 2 fine solidified particles or 3 vaporized gas droplets (here, 1, 2, and 3 are referred to as "fog" or "atomize"), and the mixture of liquid based component and gas component is injected toward the polishing surface of the polishing table 10-1 with predetermined orientation (see pg. 4, [0054]). Therefore, a specific flow rate of less than or equal to 100 cc per minute, a pressure range of 1-10 psi and a pressure range of 10-50 psi, would have been inherently obvious.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12, 13, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. as applied to claims 1-11, 14-16, and 19-23 above, in

view of Togawa et al. (6,338,669).

Kimura et al. as applied to claims 1-11, 14-16, and 19-23 above, reads over the claimed invention except for supplying both the slurry and the rinsing solution through the same nozzles. Togawa et al. ('669) disclose a polishing device having a liquid supply including a plurality of nozzles, and teach that a pure water source may be flowed through the tubes and nozzles after the supply of the polishing liquid, the dressing liquid and so on in order to clean the nozzles. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the system of Kimura et al. by supplying the rinsing solution through the same nozzles as those that supplied the slurry, in a subsequent step, and repeating the steps as many times as deemed necessary, as Togawa et al. ('669) teach that it would have been obvious to subsequently provide a rinsing solution through the nozzles that had previously supplied slurry, in order to clean the nozzles; with the additional benefit of simplifying the structure of the liquid supply means by negating the need for separate sets of nozzles for each of the fluids used in the CMP process.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chamberlin et al., Ho et al., Kimura et al., Kunugi, Li et al., Vanell et al., and Withers et al. each supply a liquid to a polishing pad.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Thomas whose telephone number is (703) 308-4250. The examiner can normally be reached on 7-4 M-F.

Art Unit: 3723

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David B Thomas can be reached on (703) 308-4250. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
dbt

  
David B. Thomas  
Patent Examiner  
Art Unit 3723